

PATENT ABSTRACTS OF JAPAN

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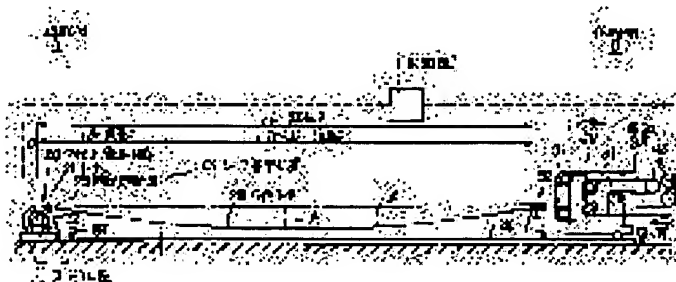
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(54) CONTROL FOR STRIP MEMBER STORING DEVICE

(57)Abstract:

PURPOSE: To prevent the collision trouble of a loop 'car' by correctly detecting the position of the loop car, obviating the necessity of the fulcrum for a wire rope such as a supporting roller, in the control for a metal strip member storing device in a continuous processing line for a strip member.

CONSTITUTION: As for a strip member storing device which is equipped with a loop car 30 equipped with a plurality of louver rolls 30 for winding up a strip steel 35 and a wire rope holding member 32, and a wire rope taking up machine 20, the strip steel is stored by shifting the loop car 30 to the storage side, in the ordinary passing of the strip steel. When the loop car 30 is shifted to the feed side by taking up a wire rope 25, the strip member feeding quantity supplied from the upstream side of the line is adjusted by calculating the position from the standard point of the loop car, and the position of the loop car is correctly controlled.



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DETAILED DESCRIPTION

[Detailed Description of the Invention]

[0001]

[Industrial Application]This invention relates to the storage device of the metal band material in belt material continuous processing lines, such as a continuation cold rolling line and a continuous-annealing pickling line.

[0002]

[Description of the Prior Art]Drawing 4 is a side view showing the concept of an example of the conventional belt material storage device.

[0003]The hoop iron 35 conveyed from the hoop iron welding machine for example, it did not illustrate, as shown in drawing 4 is wound around the deflector roll 40 attached pivotally by [which were attached pivotally by the loop car 30 enabling free rotation / the looper roll 31 and above the floor level] enabling free rotation, and for example, it does not illustrate, it is fed into a cold-rolling-mill group. And at the time of the usual plate leaping of the hoop iron 35, the wire rope 25 which was wound around the sheave 32 attached to the loop car 30, and was supported by the support rollers 26 and 27 was rolled round on the drum 21 of the wire rope winder 20, the loop car 30 was moved to the storage side A, and the hoop iron 35 is stored.

[0004]If feeding of the hoop iron 35 stops for welding of the hoop iron 35 by the welding machine which is not illustrated, in order not to stop the cold-rolling-mill group which is not illustrated, It **** like a graphic display of the wire rope 25 currently rolled round to the drum 21, and the loop car 30 is moved to the supply side B, and the cold-rolling-mill group which does not illustrate the stored hoop iron 35 is supplied.

[0005]In the case of movement of the loop car 30, each proximity switches 37 and 38 detect approach to the support rollers 26 and 27, the support rollers 26 and 27 attached pivotally by the arm 28 by the oil hydraulic cylinder 29 are upset caudad one by one, and the collision with the loop car 30 is avoided.

[0006]If the motor 22 of the wire rope winder 20 is always energized in the rolling-up direction and the number of rotations (the amount of feeding) of the pay off reel which the line upper stream does not illustrate is increased, With tension, such as a cold-rolling-mill group etc. of the lower stream which will not be illustrated if it moves to the storage side A,

9

storage device of this invention, If the wire rope currently rolled round to the drum if feeding of hoop iron stops for welding of hoop iron is ****(ed) and a loop car is moved to a supply side, Prudence of a wire rope, a stress area, an elastic coefficient, a size between fulcrums, and an arc linear dimension of the circle according to bending by the tension of said belt material, An elongation size is computed and it is extended with this arc linear dimension, and the position from the reference point of a loop car is computed, the belt material amount of supply from the line upper stream is adjusted, and the position of a loop car is correctly controlled by the sum with a size.

[0014]Therefore, since the error of the detection position of a loop car is lost even if the distance from a reference point to a loop car becomes long and bending becomes large, Wire rope fulcrums, such as a support roller, become unnecessary, and the occurrence of the collision to the support roller of the loop car by proximity switch malfunction like a device before can be prevented.

[0015]

[Example]A drawing explains one example of this invention below. The side view showing the concept of a belt material storage device that drawing 1 applies the one example method of this invention, the block diagram in which drawing 2 shows the composition of the operator control panel of drawing 1, and drawing 3 are the flow charts showing the control procedure of this invention control method.

[0016]The same numerals are given to the same conventional member and part as a device, and the overlapping explanation is omitted to them.

[0017]In drawing 1, 1 is an operator control panel and is connected with the drive of other apparatus, such as a pinch roll which the angle-of-rotation detector 23 of the wire rope winder 20 and the line upper stream do not illustrate, and a bridle roll of the line lower stream.

[0018]By this invention, since it is unnecessary, the support rollers 26 and 27 in the conventional device shown by drawing 4, the arm 28, the oil hydraulic cylinder 29, and the proximity switches 37 and 38 are removed.

[0019]As shown in drawing 2, the angle-of-rotation detector 23 was connected, ****(ed) the operator control panel 1, and did not illustrate it with the size conversion part 2, the move size operation part 3, the wire rope condition storage section 4, and the hoop iron tension operation part 5, and also it was connected with the equipment driver, and also it possesses the apparatus operation directions part 6.

[0020]At the time of the usual plate leaping of the hoop iron 35, the wire rope 25 wound around the sheave 32 was rolled round on the drum 21, the loop car 30 was moved to the storage side A, and the hoop iron 35 is stored.

[0021]If feeding of the hoop iron 35 by the pay off reel which is not illustrated for welding of the hoop iron 35 by the welding machine which is not illustrated stops, It **** like a graphic display of the wire rope 25 currently rolled round to the drum 21, and the loop car 30 is moved to the supply side B, and the cold-rolling-mill group which does not illustrate the stored hoop iron 35 is supplied.

[0022]A following loop car position calculation equation and wire rope extensometer formula are beforehand inputted into the move size operation part 3 in the operator control panel 1.

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support roller, became unnecessary, and became that the collision to the support roller by proximity switch malfunction of a loop car and run ***** are likely to be exceeded can be prevented.

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DESCRIPTION OF DRAWINGS

[Brief Description of the Drawings]

[Drawing 1]It is a side view showing the concept of the belt material storage device which applies the 1 example control method of this invention.

[Drawing 2]It is a block diagram showing the composition of the operator control panel in drawing 1.

[Drawing 3]It is a flow chart showing the control procedure of this invention.

[Drawing 4]It is a side view showing the concept of one example of the conventional belt material storage device.

[Description of Notations]

0 Zero

01 Sheave reference position

1 Operator control panel

20 Wire rope winder

21 Drum

23 Angle-of-rotation detector

25 Wire rope

30 Loop car

31 Looper roll

32 Sheave

35 Hoop iron

A Storage side

B Supply side

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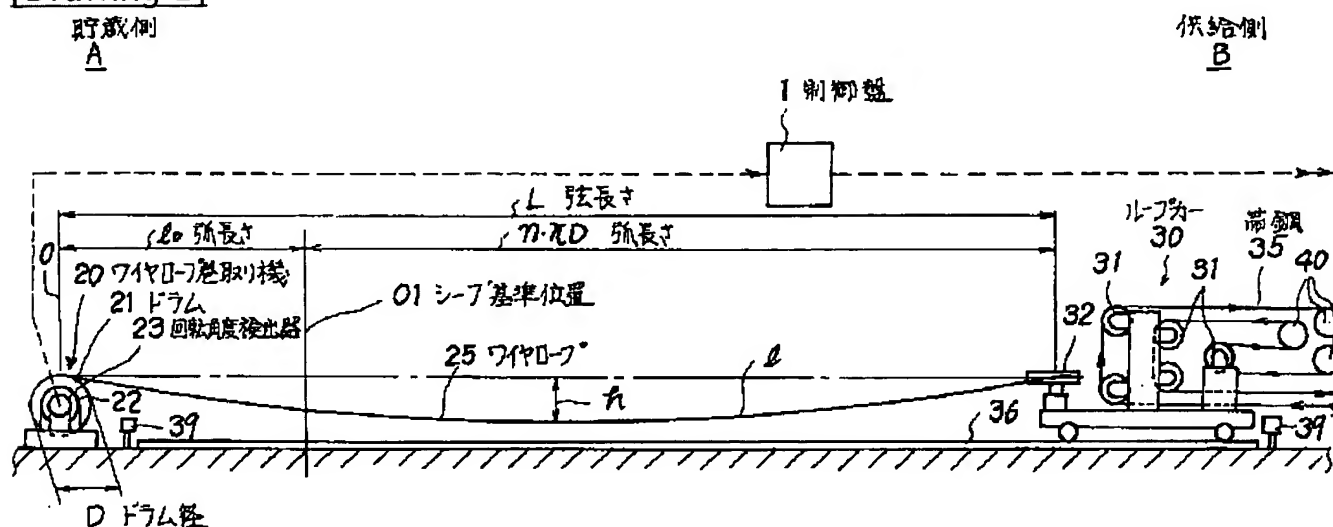
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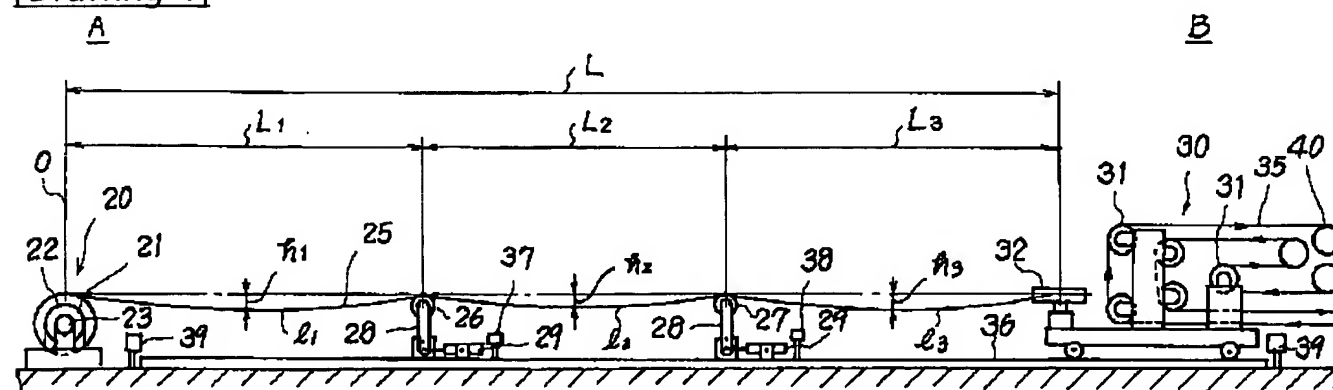
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DRAWINGS

[Drawing 1]

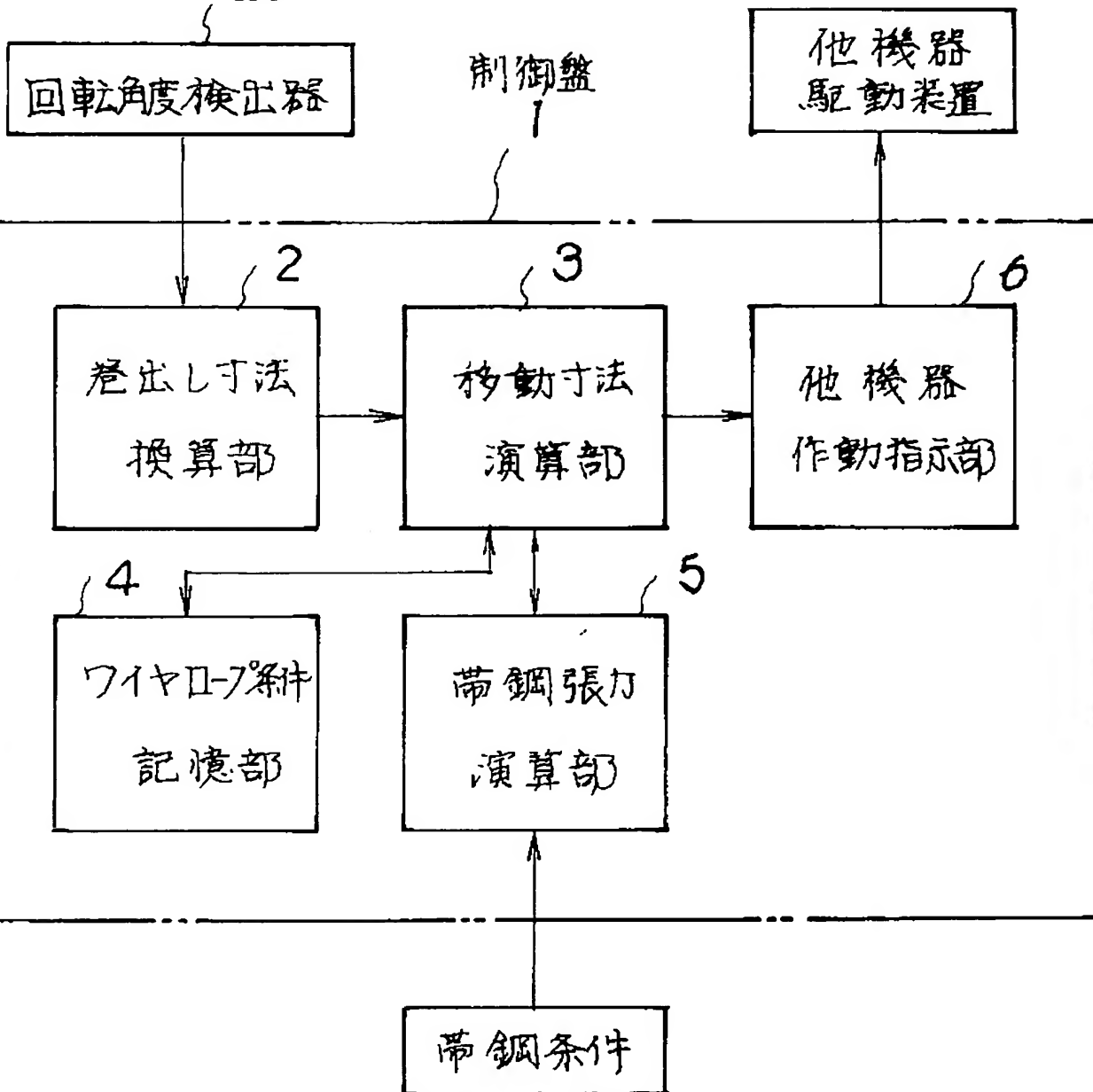


[Drawing 4]

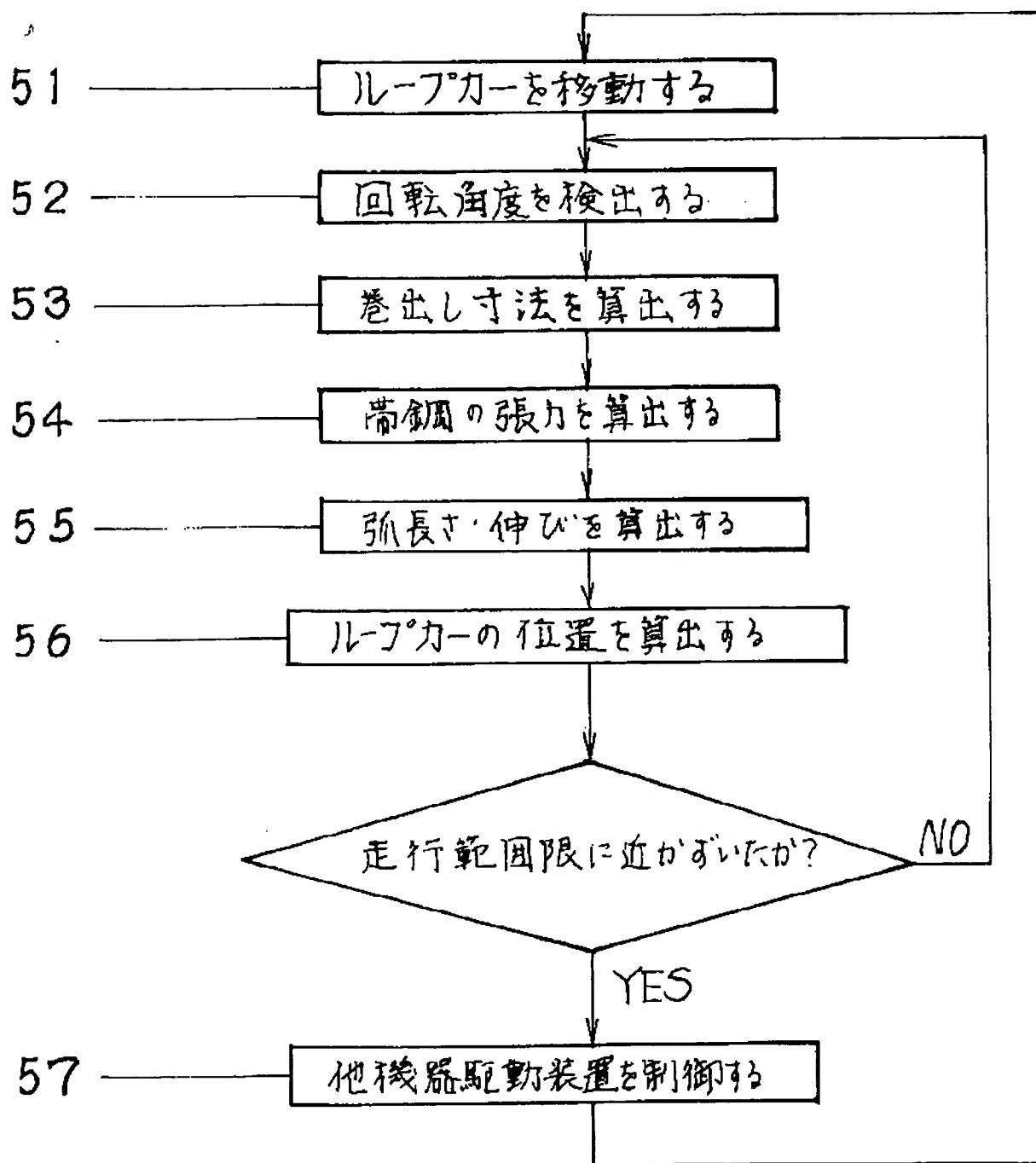


[Drawing 2]

23



[Drawing 3]



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